IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

TVnGO Ltd. (BVI), **Plaintiff,** **v.** **LG ELECTRONICS, INC. and LG ELECTRONICS U.S.A., INC.,** **Defendants.**	**Civil Case No.: 18-cv-10238** **JURY DEMANDED**

COMPLAINT AND DEMAND FOR JURY TRIAL

Plaintiff TVnGO Ltd. (BVI) ("TVnGO" or "Plaintiff"), for its Complaint against Defendants LG Electronics, Inc. and LG Electronics U.S.A., Inc. (collectively, "LG" or "Defendants") hereby alleges as follows:

NATURE OF ACTION

1. This is a civil action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1, *et seq*.

THE PARTIES

2. Plaintiff TVnGO is a limited liability company operating and existing under the laws of the British Virgin Islands, with its principal place of business at Palm Grove House, Road Town, Tortola, VG1110, British Virgin Islands. TVnGO, operating through its wholly-owned subsidiary TVnGO Israel, was a pioneer in the smart electronics industry having developed, patented, and marketed smart electronic device technology.

3. Specifically, in the mid-to-late 2000s, TVnGO went to great lengths to commercialize its patented inventions including meeting with electronics industry leaders, attending tradeshows, developing multiple business models, and manufacturing products. The company also continued to invest in and further develop its patent portfolio, obtaining broad protection for its valuable and pioneering inventions in the smart television marketplace.

4. Defendant LG Electronics, Inc. ("LG Korea") is a corporation organized under the laws of Korea with its principal place of business at LG Twin Tower 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Korea. LG Korea is in the business of developing, manufacturing, and selling consumer electronics, including televisions, for importation into the United States.

5. Defendant LG Electronics U.S.A., Inc. ("LG USA") is a company organized under the laws of the state of Delaware with its principal place of business at 1000 Sylvan Avenue, Englewood Cliffs, New Jersey. LG USA has a registered agent, Corporation Service Company, located at 830 Bear Tavern Road, West Trenton, NJ, 08628. LG USA is in the business of developing, manufacturing, importing, and selling electronic devices including televisions.

JURISDICTION AND VENUE

6. This Court has jurisdiction over the subject matter of this Complaint under 28 U.S.C. § 1338(a) because this action arises under the patent laws of the United States, including 35 U.S.C. § 271, *et seq.*

7. This Court also has personal jurisdiction over LG in this action because it engaged in systematic and continuous business activities in the District of New Jersey. Specifically, LG knowingly and purposefully ships, distributes, offers for sale, and/or sells its products, including smart televisions, in the United States and this District, either directly or through intermediaries

(including distributors, retailers, and others), subsidiaries, and/or agents. Moreover, LG maintains its principal place of business within this District.

8. Venue is proper in this District at least under 28 U.S.C. §§ 1391(b) and (c), as well as 28 U.S.C. § 1400(b).

PATENTS IN SUIT

9. The U.S. Patent and Trademark Office ("PTO") issued U.S. Patent No. 8,132,220 ("the '220 patent") on March 6, 2012, entitled "METHOD AND APPARATUS FOR FACILITATING TOGGLING BETWEEN INTERNET AND TV BROADCASTS." TVnGO is the assignee and owner of the entire right, title, and interest in and to the '220 patent, including the right to assert all causes of action arising under said patent and the right to all remedies for infringement including past and future damages. A true and correct copy of the '220 patent is attached hereto as Exhibit A.

10. The U.S. Patent and Trademark Office ("PTO") issued U.S. Patent No. 9,124,945 ("the '945 patent") on September 1, 2015, entitled "INTEGRATING, AT A USER'S PREMISES, TV CHANNEL FORMAT MATERIAL WITH IP FORMAT MATERIAL THROUGH OVERLAYS." TVnGO is the assignee and owner of the right, title, and interest in and to the '945 patent, including the entire right to assert all causes of action arising under said patent and the right to all remedies for infringement including past and future damages. A true and correct copy of the '945 patent is attached hereto as Exhibit B.

11. The U.S. Patent and Trademark Office ("PTO") issued U.S. Patent No. 9,392,339 ("the '339 patent") on July 12, 2016, entitled "TV-INTERNET INTEGRATION CIRCUIT." TVnGO is the assignee and owner of the entire right, title, and interest in and to the '339 patent, including

the right to assert all causes of action arising under said patent and the right to all remedies for infringement including past and future damages. A true and correct copy of the ’339 patent is attached hereto as Exhibit C.

12. The U.S. Patent and Trademark Office (“PTO”) issued U.S. Patent No. 9,407,969 (“the ’969 patent”) on Aug 2, 2016, entitled “FORMING OVERLAYS AT USER’S PREMISES AND UTILIZING THEM FOR SELECTIVE COMBINATIONS OF TV BROADCAST CHANNEL FORMAT MATERIAL AND IP-FORMAT MATERIAL.” TVnGO is the assignee and owner of the entire right, title, and interest in and to the ’969 patent, including the right to assert all causes of action arising under said patent and the right to all remedies for infringement including past and future damages. A true and correct copy of the ’969 patent is attached hereto as Exhibit D.

13. The U.S. Patent and Trademark Office (“PTO”) issued U.S. Patent No. 9,794,621 (“the ’621 patent”) on October 17, 2017, entitled “METHOD OF DISPLAYING INTERNET SIGNAL ON TV.” TVnGO is the assignee and owner of the entire right, title, and interest in and to the ’621 patent, including the right to assert all causes of action arising under said patent and the right to all remedies for infringement including past and future damages. A true and correct copy of the ’621 patent is attached hereto as Exhibit E.

14. Generally, the Patents in Suit are directed to and claim, *inter alia*, methods and devices that make televisions “smart.” The patented invention achieves this, in general, by enabling methods and devices for combining television content, such as analog and digital television signals, with Internet content, such as streaming services like Netflix, in a user friendly and easily manageable manner. More specifically, the claims include devices and methods for using overlays to display both television content and Internet content on a television screen.

LG INFRINGING SMART TV TECHNOLOGY

15. On information and belief, on or about 2007, LG began selling "smart" televisions in the United States. These "smart" televisions are enabled to receive and display material from the Internet while simultaneously receiving and displaying television content. Currently, on information and belief, LG offers for sale more than 50 television models which it advertises as "Smart TVs."

16. The earlier smart televisions ("LG Smart TVs") include an "Antenna/Cable" input, which receives TV channel video and has network connectivity for receiving Internet content. *See* Ex. F, p. 20; Ex. G, p. 1; Ex. H, p. 71–72. These LG Smart TVs include a "My Apps" pop up bar which includes Internet-based content applications and "can pop up at any time" to overlay the Internet inputs on top of the TV channel video. *See* Ex. I, p. 3.

17. On information and belief, in 2014, LG began selling smart televisions utilizing its "WebOS" platform which has since seen several releases including the most recent WebOS 3.5 release ("LG WebOS Smart TVs"). The LG WebOS Smart TVs have an "Antenna/Cable" input, which receives TV channel video as well as inputs for receiving Internet material, namely WiFi and LAN inputs. *See* Ex. J, pp. 9–10; Ex. K, p. 37; Ex. L, p. 1. These LG WebOS Smart TVs also use overlays to display both the Internet material and the television content on the television screen as depicted, by way of example, in the figure below. *See*, *e.g.*, Ex. J, p. 1 (figure below); Ex. K, pp. 12–13; Ex. M, p. 6 ("The Home screen UI appears when the user presses the HOME button on the remote control. The Home screen UI appears as an overlay on the current screen.").

FIRST COUNT FOR PATENT INFRINGEMENT ('220 PATENT)

18. TVnGO realleges, and incorporates in full herein, each preceding paragraph.

19. The '220 patent is directed to and claims, *inter alia*, methods and devices for generating an overlay using video signals as a first data and digital data as a second layer. *See generally*, Ex. A. The LG Smart TVs and LG WebOS Smart TVs, and the use thereof, infringe one or more claims of the '220 patent.

20. For example, claim 13 recites "[a] TV-Internet Integration Box for generating at a user's premises an overlay using video signals constituting a first data and overlay-enabling digital data constituting a second data, the TV-Internet Integration Box comprising."

21. As discussed above, the LG Smart TVs and LG WebOS Smart TVs receive and display both television and Internet content.

22. Claim 13 also recites "a combiner unit at a user's premises coupled to a separate TV tuner box or TV tuner."

23. The LG Smart TVs satisfy this limitation at least because they have an "Antenna/Cable" input through which they receive television signals. Since LG Smart TVs are capable of displaying different channels, they must be coupled to a separate TV tuner box (such as a cable, satellite, or set top box (hereinafter, "set top box")) or use an internal TV tuner. *See* Ex. F, p. 20.

24. Similarly, the LG WebOS Smart TVs satisfy this limitation at least because they have an "Antenna/Cable" input through which they receive television signals. Since LG WebOS TVs are capable of displaying different channels, they also must be coupled to a separate TV tuner box (such as a set top box) or use an internal TV tuner. *See* Ex. J, p. 10; Ex. K, p. 37 (input diagram for "ANTENNA/CABLE").

25. Claim 13 further recites that "the combiner unit is also connected through distinct networks to each of a video signal source providing video signals through the TV tuner box or TV tuner, and an Internet data source providing overlay-enabling digital data over the Internet."

26. The LG Smart TVs satisfy this limitation at least because they are also connected to the Internet via a wired or wireless connection that is distinct from its connection to the TV tuner box. *See* Ex. G, p. 1 (describing a "Wireless Network Connection" and a "Wired Network Connection" to connect to the Internet); Ex. H, p. 71 ("A wireless or wired network connection is necessary to use the Smart TV features."), p. 72 ("Select a network connection either through Wired or Wireless."). As illustrated in the image below, the Internet data source provides overlay-enabling digital data over the Internet:

Ex. I, p. 3 ("A new user interface has been introduced with a pop-up bar at the bottom that will make the Smart TV platform seem more integrated. The My Apps bar can pop up at any time just by pressing the apps button on the remote."); Ex. H, p. 68 ("Select My Apps at the bottom of the home screen or press the MY APPS button on the remote control. Select My Apps to check apps pre-installed apps and apps you have downloaded."); *see also infra* ¶¶ 28–33.

27. Similarly, the LG WebOS Smart TVs satisfy this limitation at least because they are also connected to the Internet via a wired or wireless connection that is distinct from its connection to the TV tuner box. *See* Ex. J, pp. 9-10 (describing "WiFi" for establishing a wireless Internet connection and a "LAN" input for establishing a wired Internet connection); Ex. L, p. 1. As illustrated below, the Internet data source provides overlay-enabling digital data over the Internet:

Ex. J, p. 1. For example, data is provided over the Internet for the Netflix card in the horizontal band, containing the Netflix logo and a link to Netflix.com. *See, e.g.*, Ex. L, p. 1; *see also infra* ¶¶ 28–33.

28. Claim 13 further recites "wherein said video signals and said overlay-enabling digital data originate from unrelated sources and are transmitted to the user's premises by different resources as mutually distinct and independent inputs."

29. The LG Smart TVs satisfy this limitation at least because they have mutually distinct and independent inputs for the video signals and Internet data (including overlay-enabling digital data received over the Internet). In particular, video signals are received via the LG Smart TV's ANTENNA/CABLE (*see* Ex. F, p. 20), while the Internet data is received via WiFi or LAN inputs (*see* Ex. G, p. 1; Ex. H, p. 71, 72). In addition, in LG Smart TVs, the video signals and the overlay-enabling digital data received over the Internet originate from unrelated sources and are transmitted to the user's premises by different resources. For example, apps in the My Apps bar originate from LG Smart World (which is accessed by selecting "LG Smart …" icon shown in the My Apps bar). *See, e.g.*, Ex. H, p. 68 (showing "LG Smart …" icon), p.113 ("LG Smart

World is a TV application service available through Smart TV Service. You can download and enjoy many different apps (for fee or free) including education, entertainment, life and news."), p. 114 ("You can sign up for [LG Smart World] membership on either your TV and the website (www.lgappstv.com)"). In contrast, television video signals originate from television signal providers. Further, the apps generally originate from the providers of the individual apps and are independent of any television video signals that are displayed on the television.

30. Similarly, LG WebOS Smart TVs satisfy this limitation at least because they have mutually distinct and independent inputs for the video signals and Internet data (including overlay-enabling digital data received over the Internet). In particular, video signals are received via the LG WebOS TV's ANTENNA/CABLE input (*see* Ex. J, p. 10; Ex. K, p. 37), while the Internet data is received via WiFi or LAN inputs (*see* Ex. J, pp. 9-10). In addition, in LG WebOS Smart TVs, the video signals and the overlay-enabling digital data received over the Internet originate from unrelated sources and are transmitted to the user's premises by different resources. For example, the app cards in the horizontal band shown in the figure above originate from the LG Content Store (which is accessed by selecting red LG Content Store card shown on the far right of the band in the above figure). *See, e.g.*, Ex. N, p. 4 ("Make the LG Content Store your first stop to find everything you love about entertainment. Here you'll find recent TV shows, Video-on-Demand, 3D Content, apps and more."); Ex. O, p. 1 ("The LG Content Store (LG Store) is the only way for users to install or update apps on their LG Smart+ TVs."). In contrast, television video signals originate from television signal providers. Further, the app cards generally originate from the providers of the individual apps and are independent of any television video signals that are displayed on the television.

31. Claim 13 also recites "wherein said overlay-enabling digital data includes at least:[i] a Web link indicating a website where content that is associated with said overlay-enabling digital data is stored; [ii] an image indicative of the content associated with said overlay-enabling digital data; and [iii] an overlay activation criterion."

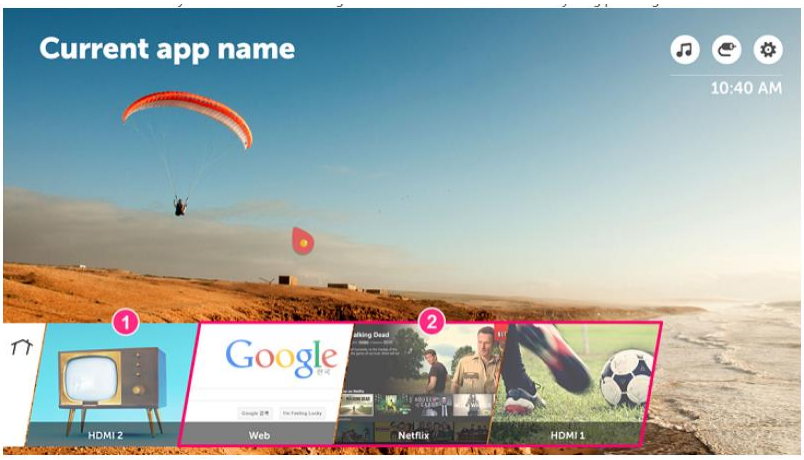
32. This element is satisfied by the LG Smart TVs at least because the overlay-enabling digital data includes a Web link, an image (such as an icon for an app), and overlay activation criterion (such as when to display the image).

Ex. I, p. 3 ("A new user interface has been introduced with a pop-up bar at the bottom that will make the Smart TV seem more integrated. The My Apps bar can pop up at any time just by pressing the apps button on the remote."); Ex. H, p. 68 ("Select My Apps at the bottom of the home screen or press the MY APPS button on the remote control. Select My Apps to check apps pre-installed apps and apps you have downloaded."). For example, in the image above, there are (i) Web links associated with various app shown icons in the My Apps bar; (ii) images associated with the content for each such Web link (such as the app icons); and (iii) overlay activation criteria that determines when the horizontal row of app cards is displayed (e.g., pressing the MY

APPS button on the remote control a then selecting a particular app in the displayed MY APPS bar). *Id.*

33. This elements is also satisfied by the LG WebOS Smart TVs at least because the overlay-enabling digital data includes a Web link, an image (such as the logo within the card), and overlay activation criterion (such as when to display the image).

Ex. M, p. 7. For example, in the figure above, there are (i) Web links associated with various app cards shown along the bottom of the screen; (ii) images associated with the content for each such Web link (such as the logos); and (iii) overlay activation criteria that determines when the horizontal row of app cards is displayed (e.g., pressing the Home button on the remote control). *Id.* ("App tiles – Allows the user to launch the apps or select the input sources. You can navigate through the tiles by scrolling right and left."); *see also* Ex. M, p. 8 ("The Recents UI is an overlay on the bottom of Background. Recents can be accessed by long pressing the Recent card from Home UI.") (figure below);



Ex. M, pp. 11-12 (explaining Toast notifications: "The Toast notification informs the user, but without requiring any action from the user. It appears as an overlay on Background.") (figure below).

34. Claim 13 further states "wherein the combiner unit is responsive to an overlay activation criterion being met for generating a corresponding overlay, including: [i] generating at the user's premises a first display screen including at least a first portion corresponding to said video signals and a second portion overlaid over said first portion and corresponding at least to said image, and [ii] associating the Web link with said second portion of the first display screen

thereby allowing a user to cause the combiner unit to retrieve said content, and generate a second video display screen including at least a portion which corresponds to said content; and [iii] a video output interface, coupled to or integrated within the combiner unit and configured to be coupled to a video input of said TV set and to display said first display screen or said second video display screen"

35. As the images above illustrate, the LG Smart TVs satisfy this limitation at least because they are responsive to an overlay activation criteria (such as pressing the "My Apps" button on the remote control) to generate a corresponding overlay—the horizontal row of icons shown on the bottom of the screen. *See* Ex. F, p. 30. As to [i], the LG Smart TVs generate a first display screen that includes a first portion that corresponds to the video signals—namely, the television program. It also includes a second portion that is overlaid over the first portion—namely, the horizontal row of app cards in the My Apps bar that is overlaid over the television program. As to [ii], in the LG Smart TVs, one or more Web links are associated with the overlaid information—for example, at least some of the icons shown in the My Apps bar have Web links associated with them. The user can select a Web link and thereby cause the LG Smart TV to retrieve the content associated with the Web link and generate a second video display screen that includes the retrieved content—for example, a user could download the Twitter app (Ex. H, p. 113), which would then appear in the My Apps Bar, and, by selecting the Twitter app icon, display Twitter content. As to [iii], the LG Smart TVs contain a combiner unit that combines the video signals and Internet data and display the first and second displays screens, again as described above.

36. As the images above illustrate, the LG WebOS Smart TVs satisfy this limitation at least because they are responsive to an overlay activation criteria (such as pressing the "Home" button

on the remote control) to generate a corresponding overlay (the horizontal row of icons shown on the bottom of the screen). Ex. K, pp. 12-13; Ex. M, p. 6 ("The Home screen UI appears when the user presses the HOME button on the remote control. The Home screen UI appears as an overlay on the current screen."), p. 7 ("Background – Displays the current app that is running. TV content is also an app, hence a current app could be TV content. Clicking on this returns the users to the app."). As to [i], the LG WebOS Smart TVs generate a first display screen that includes a first portion that corresponds to the video signals—in in the images above, the television program. It also includes a second portion that is overlaid over the first portion—in the images above, the horizontal row of app cards on the bottom that is overlaid over the television program. As to [ii], in the LG WebOS Smart TVs, one or more Web links are associated with the overlaid information—for example, at least some of the cards shown in the horizontal row along the bottom have Web links associated with them. The user can select a Web link and thereby cause the LG WebOS TV to retrieve the content associated with the Web link and generate a second video display screen that includes the retrieved content—for example, selecting the Netflix card will display Netflix content. *See* Ex. N, pp. 2–3. There are many possible activation criterion involved in launching an overlay. The web / destination address is critical in launching the overlay and corresponding application. The LG WebOs developer site lists the many actions involved in generating an overlay successfully. *See* http://webostv.developer.lge.com/api/webos-service-api/application-manager/?wos_flag=launch#launchLists.

Icon

Icons are the visual expression of a brand's products, services, and identity. The app icons provide provide a quick, and intuitive representation of the product. For packaging, the app icons should be stored in the **assets/icons** directory. Also, icons are referred to relative to the location of index.html. See Key App Assets for details.

Icon Style

You should be aware of the following rules when you design your app icons.

- Icons should be designed with a distinct silhouette.
- They should be two-dimensional and flat.
- The icons are displayed on a solid colored background panel. You can specify a color for the background panel. The color must be specified using a hexadecimal notation (HEX).
- Avoid using visual effects. Visual effects will make your icon look inconsistent with the flat style/aesthetic of the system UI.

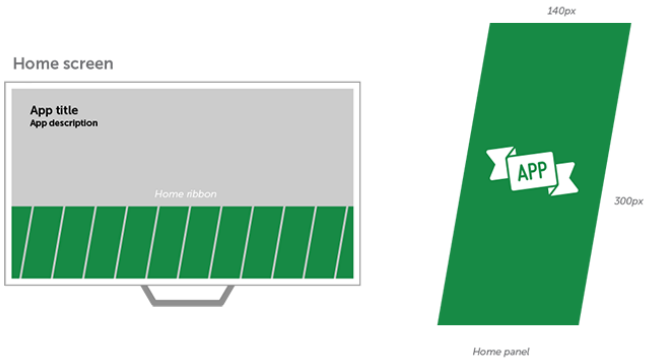
Icon Color

- Make sure you choose the correct colors for your icon and the background panel.
- Apply the same background app tile color to both app icons shown in the upper-left corner and the app tiles shown at the bottom of the Home UI.
- The icon color and the background panel should reflect your brand. However, it is important to ensure that there is a good contrast. The icon should stand out clearly against the background panel. Lack of contrast could make the icon difficult to view.

Icon Background Panel Sizes & Scale

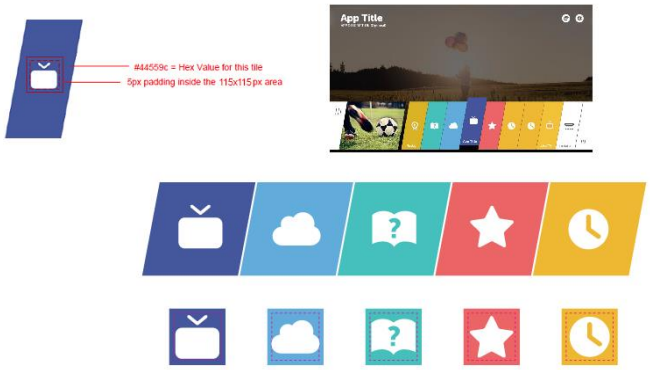
App icons displayed on the Home screen has the following background size:

- 140 x 350 px



Icon Format & Positioning

- Icons should be imported in PNG file format.
- The icon should have at least 5px padding inside. If you don't have a padding in your 115 x 115 px area, your logo will be not be displayed properly.
- Make sure that the icon fits nicely on the panel without being too close to any of the edges.



In LG Content Store (LG Store), your logo will be displayed in a square box. Without the padding space, your logo will look inconsistent from the rest of the logos displayed on the screen.

1. **My Content** - The list of user-added favorite content such as TV shows and movies, or LG Content Store appears, depending on the country. It appears when you hover over the left side of the Home screen.
2. **My Channels** - The list of user-added channels appears, for fast access to the most watched channels.
3. **Active Application Info** - The Currently running app information is displayed on the screen.
4. **Global actions** - Provides quick access to helper apps such as Music Player, Input Picker, Settings, or My Starter.
5. **Recent Card** - Recent Card allows users to easily go back to the most recently used app. Note that this is different from the currently running app.
6. **App tiles** - Allows users to quickly launch the apps or select the input sources. You can navigate through the tiles by scrolling right and left.
7. **Background** - Displays the current app that is running. Clicking on the background will take the app back to full screen view.

As to [iii], the LG WebOS Smart TVs contain a combiner unit that combines the video signals and Internet data and display the first and second displays screens, as illustrated in the images above.

37. Consequently, LG has directly infringed, either literally or under the doctrine of equivalents, one or more claims of the '220 patent under 35 U.S.C. § 271(a) by importing,

selling, and/or offering to sell smart televisions that support the above described Smart TV Technology in the United States. LG has also directly infringed by using, testing, operating and/or demonstrating televisions incorporating the above described Smart TV Technology at tradeshows or during the testing and repair procedures at service facilities in the United States.

38. LG has indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the ’220 patent under 35 U.S.C. § 271(b) by inducing users and customers of LG televisions to use the above described infringing Smart TV Technology. For example, LG advertises and identifies to users the Smart TV Technology. *See, e.g.*, Ex. I. By way of further example, LG provides instructional and tutorial materials for its Smart TV Technology instructing users on how to configure and connect the televisions to the Internet and to on-line video providers in a manner that results in the use of the claimed inventions. *See, e.g.*, Ex. G. These materials also include instructional videos posted on LG’s web site. *See, e.g.*, http://www.lg.com/us/support/video-tutorials/CT10000018-20150238686376-initial-setup. In view of the foregoing, LG has possessed specific intent to encourage others, and has in fact encouraged others, to infringe one or more claims of the ’220 patent. The customers and end users have used and practiced the claimed inventions. LG had knowledge of the ’220 patent at least as early as the filing of the complaint.

39. LG has also indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the ’220 patent under 35 U.S.C. § 271(b) by inducing third-parties to import, sell, or offer to sell LG televisions with the above described Smart TV Technology in the United States. LG has manufactured LG televisions overseas with knowledge and intent that such televisions will be imported, sold, or offered for sale in the United States. For example, LG designed and manufactured the televisions to be compliant with Federal Communication

Commission (FCC) requirements, obtained Underwriters Laboratories (UL) certification for the televisions, made the televisions compatible with ATSC broadcast standards used in the United States, provided written instructions and on-screen displays in English, maintained a U.S. web site for marketing of the televisions, and made the televisions compatible with U.S. power requirements. LG also encourages third-parties to import and/or sell the accused televisions in the United States by contracting with and assisting them with the movement of LG's televisions through distribution channels into and within the United States. Third-parties, including Costco, Walmart, and Best Buy to name a few, have, in fact, imported, sold, and/or offered to sell the accused LG televisions in the United States. LG had knowledge of the '220 patent at least as early as the filing of the complaint.

40. LG has also indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the '220 patent under 35 U.S.C. § 271(c) by importing, selling, and/or offering to sell in the United States televisions that possess the Smart TV Technology wherein there is no substantial non-infringing use for televisions with these features. Specifically, any use of the television as a Smart TV, utilizing both TV and Internet as designed, would necessarily infringe. Moreover, televisions that include the Smart TV Technology are not staple items of commerce. In addition, LG had knowledge that the televisions with the Smart TV Technology were especially made and adapted to use the claimed inventions of the '220 patent. Customers and end users of the accused LG televisions have used and practiced the claimed inventions. LG had knowledge of the '220 patent at least as early as the filing of the complaint.

41. TVnGO has been harmed as a result of LG's infringement and is entitled to recover damages to compensate for the infringement.

SECOND COUNT FOR PATENT INFRINGEMENT ('945 PATENT)

42. TVnGO realleges, and incorporates in full herein, each preceding paragraph.

43. The '945 patent is directed to and claims, inter alia, methods and devices for generating an overlay using video signals as a first data and digital data as a second layer. *See generally*, Ex. B. The LG Smart TVs and LG WebOS Smart TVs, and the use thereof, infringe one or more claims of the '945 patent.

44. For example, claim 1 recites "[a] TV-Internet Integration circuit configured to combine, at a user's premises, TV channel video with Internet Protocol (IP) material selected by the user through overlays displayed at the user's premises in response to an overlay activation signal that the user has selected, said circuit comprising."

45. As discussed above, the LG Smart TVs and LG WebOS Smart TVs receive television and Internet content and overlay the Internet content on top of the television content.

46. Claim 1 also recites "a TV screen at the user's premises configured to display video in response to display drive signals."

47. Both the LG Smart TVs and the LG WebOS Smart TVs satisfy this limitation at least because they have television screens configured to display video in response to display drive signals.

48. Claim 1 further recites "a combiner circuit at the user's premises having a first input for receiving the TV channel video, a second input for receiving the IP material, and an output for outputting display drive signals to the TV screen."

49. Both the LG Smart TVs and the LG WebOS Smart TVs satisfy this limitation at least because they have an "Antenna/Cable" input through which they receive TV signals (s*ee* Ex. F, p. 20; Ex. J, p. 10 (describing the "Antenna/Cable" input to the LG WebOS TVs); Ex. K, p. 37 (input diagram for "ANTENNA/CABLE")) and inputs for receiving IP material, namely WiFi and LAN inputs (*see* Ex. G, p. 1 (describing a "Wireless Network Connection" and a "Wired Network Connection" to connect to the Internet); Ex. H, p. 71 ("A wireless or wired connection is necessary to use the Smart TV features."), p. 72 ("Select a network connection either through Wired or Wireless."); Ex. J, pp. 9-10 (describing "WiFi" for establishing a wireless Internet connection and a "LAN" input for establishing a wired Internet connection)). Further, both the LG Smart TVs and the LG WebOS Smart TVs display the TV channel video and IP material on the TV screen and, thus, must have an output for outputting display drive signals to the TV screen.

50. Claim 1 also recites "wherein (i) as received by the combiner circuit at the user's premises, the TV channel video conforms to a TV broadcast format standard, and (ii) a[s] received by the combiner circuit at the user's premises, the IP material conforms to an IP format standard that is different from the TV broadcast format standard and is received via a path different from that for the TV channel video at least in part."

51. As discussed above, both the LG WebOS Smart TVs and LG Smart TVs are capable of receiving and displaying standard television channel video that conforms to television broadcast format standards. They are also both capable of receiving and displaying IP material that conforms to IP format standards different from television broadcast format standards.

52. In addition, LG Smart TVs receive TV channel video and IP material via paths that are different at least in part. In particular, the TV channel video and IP material are received at different inputs as described above, which constitutes different paths. Also, for example, apps in the My Apps bar originate from LG Smart World (which is accessed by selecting "LG Smart …" icon shown in the My Apps bar). *See, e.g.*, Ex. H, p. 68 (showing "LG Smart …" icon), p. 113 ("LG Smart World is a TV application service available through Smart TV Service. You can download and enjoy many different apps (for fee or free) including education, entertainment, life and news."), p. 114 ("You can sign up for [LG Smart World] membership on either your TV and the website (www.lgappstv.com)). In contrast, television video signals originate from television signal providers. Further, the apps generally originate from the providers of the individual apps and are independent of any television video signals that are displayed on the television.

53. Similarly, LG WebOS Smart TVs receive TV channel video and IP material via paths that are different at least in part. In particular, the TV channel video and IP material are received at different inputs as described above, which constitutes different paths. Also, for example, the app cards in the horizontal band shown in the figure below originate from the LG Content Store (which is accessed by selecting red LG Content Store card shown on the far right of the band in the above figure). *See, e.g.*, Ex. N, p. 4 ("Make the LG Content Store your first stop to find everything you love about entertainment. Here you'll find recent TV shows, Video-on-Demand, 3D Content, apps and more."); Ex. O, p. 1 ("The LG Content Store (LG Store) is the only way for users to install or update apps on their LG Sma`rt+ TVs."). In contrast, television video signals originate from television signal providers. Further, the app cards generally originate from the providers of the individual apps and are independent of any television video signals that are displayed on the television.

54. Claim 1 further recites "a memory circuit operatively associated with the combiner circuit and configured to store, at the user's premises, plural overlays each associated with respective IP material."

55. Both the LG WebOS Smart TVs and LG Smart TVs satisfy this limitation at least because they both include a memory circuit that stores overlays associated with respective IP material—for example the app cards shown in the horizontal band displayed across the bottom of the screen. Those cards are associated with apps that have been "installed" on the LG Smart TVs and the LG WebOS TVs and, accordingly, are stored in memory in the televisions. Ex. H, p. 116 ("If you have insufficient storage space on the TV, you can download apps to a USB storage device connected to the TV's USB Apps port."); Ex. O, p. 1 ("The LG Content Store (LG Store) is the only way for users to install or update apps on their LG Smart+ TVs.").

56. Claim 1 also recites "said combiner circuit being configured to selectively generate display drive signals causing the TV screen to display the TV channel video received at the first input and, further, to selectively process at the user's premises an overlay activation signal."

57. The LG Smart TVs satisfy this limitation at least because they selectively display (i.e., generate display drive signals) TV channel video and process an overlay activation signal (for example pressing the MY APPS button on the remote control). Ex. I, p. 3 ("A new user interface has been introduced with a pop-up bar at the bottom that will make the Smart TV platform seem more integrated. The My Apps bar can pop up at any time just by pressing the apps button on the remote."); Ex. H, p. 68 ("Select My Apps at the bottom of the home screen or press the MY APPS button on the remote control. Select My Apps to check apps pre-installed apps and apps you have downloaded.").

58. The LG WebOS Smart TVs also satisfy this limitation at least because they selectively display (i.e., generate display drive signals) TV channel video and process an overlay activation signal (for example pressing the Home button on the remote control). Ex. K, pp. 12-13; Ex. M, p. 6 ("The Home screen UI appears when the user presses the HOME button on the remote control. The Home screen UI appears as an overlay on the current screen."), p. 7 ("Background – Displays the current app that is running. TV content is also an app, hence a current app could be TV content. Clicking on this returns users to the app.").

59. Claim 1 further recites "said combiner circuit being further configured to respond to the processing of the overlay activation signal by obtaining the overlays from the memory circuit and generating display drive signals causing the TV screen to display the overlays."

60. The LG Smart TVs satisfy this limitation at least because they respond to an overlay activation signal (e.g., press of the MY APPS button) by displaying overlays (the My Apps bar at the bottom of the screen).

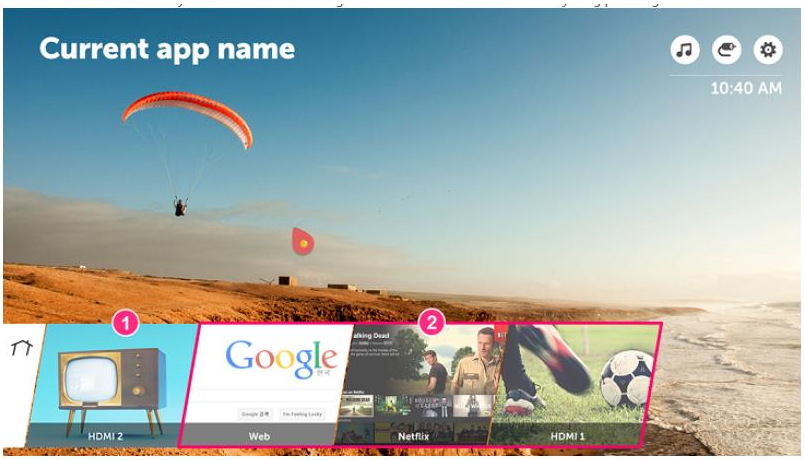
Ex. I, p. 3 ("A new user interface has been introduced with a pop-up bar at the bottom that will make the Smart TV platform seem more integrated. The My Apps bar can pop up at any time

just by pressing the apps button on the remote."); Ex. H, p. 68 ("Select My Apps at the bottom of the home screen or press the MY APPS button on the remote control. Select My Apps to check apps pre-installed apps and apps you have downloaded.").

61. The LG WebOS Smart TVs satisfy this limitation at least because they respond to an overlay activation signal (e.g., press of the Home button) by displaying overlays (the app cards in the horizontal band). Ex. K, pp. 12-13; Ex. M, p. 6 ("The Home screen UI appears when the user presses the HOME button on the remote control. The Home screen UI appears as an overlay on the current screen.");

Ex. J, p. 1;

Ex. M, p. 7. For example, in the images above, overlay activation criteria that determines when the horizontal row of app cards is displayed (e.g., pressing the Home button on the remote control). *Id;* Ex. M, p. 7 ("App tiles – Allows the user to launch the apps or select the input sources. You can navigate through the tiles by scrolling right and left."); *see also* Ex. M, p. 8 ("The Recents UI is an ***overlay*** on the bottom of Background. Recents can be accessed by long pressing the Recent card from Home UI.");



Ex. M, pp. 11-12 (explaining Toast notifications: "The Toast notification informs the user, but without requiring any action from the user. It appears as an overlay on Background.") (figure below).

1. **Text message** - A message from the app (up to 60 characters).
2. **App icon** - The icon of the app the notification is from.

62. Claim 1 also recites "said combiner circuit being still further configured to respond to a user selection of one of the displayed overlays to generate display drive signals causing the TV screen to display the IP material associated with the selected overlay and received at the second input."

63. The LG Smart TVs satisfy this element at least because when a user selects one of the overlays (e.g., app icons in the My Apps bar) the television displays IP material associated with the overlay. For example, user selection of the Twitter icon will display Twitter content. *See* Ex. H, p. 113.

64. The LG WebOS Smart TVs satisfy this element at least because when a user selects one of the overlays (e.g., app cards) the television displays IP material associated with the overlay. For example, user selection of the Netflix card will display Netflix content. *See* Ex. N, pp. 2-3.

65. Claim 1 further states "wherein depending on user selection at the user's premises the TV screen displays, at respective times, the TV channel video received at the first input, the overlays, and the IP material that the user has selected through the displayed overlays."

66. The LG Smart TVs satisfy this limitation at least because, as explained above, depending on user selection, the LG Smart TVs will display the TV channel video received at the first input, the overlays (for example, when the MY APPS button on the remote control is pressed), and the IP material that the user has selected through the displayed overlays (e.g., displaying Twitter content when the Twitter app is selected.).

67. The LG WebOS Smart TVs satisfy this limitation at least because, as explained above, depending on user selection, the LG WebOS TVs will display the TV channel video received at the first input, the overlays (for example, when the Home button on the remote control is pressed), and the IP material that the user has selected through the displayed overlays (e.g., displaying Netflix content when the Netflix card is selected.).

68. Consequently, LG has directly infringed, either literally or under the doctrine of equivalents, one or more claims of the '945 patent under 35 U.S.C. § 271(a) by importing, selling, and/or offering to sell smart televisions that support the above described Smart TV Technology in the United States. LG has also directly infringed by using, testing, operating and/or demonstrating televisions incorporating the above described Smart TV Technology at tradeshows or during the testing and repair procedures at service facilities in the United States.

69. LG has indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the '945 patent under 35 U.S.C. § 271(b) by inducing users and customers of LG televisions to use the above described infringing Smart TV Technology. For example, LG advertises and identifies to users the Smart TV Technology. *See*, *e.g.*, Ex. I. By way of further example, LG provides instructional and tutorial materials for its Smart TV Technology instructing users on how to configure and connect the televisions to the Internet and to on-line

video providers in a manner that results in the use of the claimed inventions. *See, e.g.*, Ex. G. These materials also include instructional videos posted on LG's web site. *See, e.g.*, http://www.lg.com/us/support/video-tutorials/CT10000018-20150238686376-initial-setup. In view of the foregoing, LG has possessed specific intent to encourage others, and has in fact encouraged others, to infringe one or more claims of the '945 patent. The customers and end users have used and practiced the claimed inventions. LG had knowledge of the '945 patent at least as early as the filing of the complaint.

70. LG has also indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the '945 patent under 35 U.S.C. § 271(b) by inducing third-parties to import, sell, or offer to sell LG televisions with the above described Smart TV Technology in the United States. LG has manufactured LG televisions overseas with knowledge and intent that such televisions will be imported, sold, or offered for sale in the United States. For example, LG designed and manufactured the televisions to be compliant with Federal Communication Commission (FCC) requirements, obtained Underwriters Laboratories (UL) certification for the televisions, made the televisions compatible with ATSC broadcast standards used in the United States, provided written instructions and on-screen displays in English, maintained a U.S. web site for marketing of the televisions, and made the televisions compatible with U.S. power requirements. LG also encourages third-parties to import and/or sell the accused televisions in the United States by contracting with and assisting them with the movement of LG's televisions through distribution channels into and within the United States. Third-parties, including Costco, Walmart, and Best Buy to name a few, have, in fact, imported, sold, and/or offered to sell the accused LG televisions in the United States. LG had knowledge of the '945 patent at least as early as the filing of the complaint.

71. LG has also indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the ’945 patent under 35 U.S.C. § 271(c) by importing, selling, and/or offering to sell in the United States televisions that possess the Smart TV Technology wherein there is no substantial non-infringing use for televisions with these features. Specifically, any use of the television as a Smart TV, utilizing both TV and Internet as designed, would necessarily infringe. Moreover, televisions that include the Smart TV Technology are not staple items of commerce. In addition, LG had knowledge that the televisions with the Smart TV Technology were especially made and adapted to use the claimed inventions of the ’945 patent. Customers and end users of the accused LG televisions have used and practiced the claimed inventions. LG had knowledge of the ’945 patent at least as early as the filing of the complaint.

72. TVnGO has been harmed as a result of LG’s infringement and is entitled to recover damages to compensate for the infringement.

THIRD COUNT FOR PATENT INFRINGEMENT (’339 PATENT)

73. TVnGO realleges, and incorporates in full herein, each preceding paragraph.

74. The ’339 patent is directed to and claims, inter alia, methods and devices for generating an overlay using video signals as a first data and digital data as a second layer. *See generally*, Ex. C. The LG Smart TVs and LG WebOS Smart TVs, and the use thereof, infringe one or more claims of the ’339 patent.

75. For example, claim 1 recites “[a] TV-Internet Integration circuit configured to combine, at a user’s premises, TV channel video with Internet Protocol (IP) material selected by the user through overlays on the TV channel video displayed in response to an overlay activation criterion that the user has selected, said circuit comprising.”

76. As further described with reference to the specific elements below, both the LG Smart TVs and LG WebOS TVs provide the components and functionality to satisfy this element.

77. Claim 1 also recites "a combiner circuit at the user's premises having a first input for receiving the TV channel video and a second input for receiving the IP material, and further having an output for outputting the combined video."

78. Both the LG Smart TVs and the LG WebOS Smart TVs satisfy this limitation at least because they have an "Antenna/Cable" input through which they receive television signals (*see* Ex. F, p. 20; Ex. J, p. 10 (describing the "Antenna/Cable" input to the LG WebOS TVs); Ex. K, p. 37 (input diagram for "ANTENNA/CABLE")) and inputs for receiving IP material, namely WiFi and LAN inputs (*see* Ex. G, p. 1 (describing a "Wireless Network Connection" and a "Wired Network Connection" to connect to the Internet); Ex. H, p. 71 ("A wireless or wired connection is necessary to use the Smart TV features."), p. 72 ("Select a network connection either through Wired or Wireless."); Ex. J, pp. 9-10 (describing "WiFi" for establishing a wireless Internet connection and a "LAN" input for establishing a wired Internet connection)). Further, both the LG Smart TVs and the LG WebOS Smart TVs display the TV channel video and IP material on the TV screen and, thus, must have an output for outputting display drive signals to the TV screen.

79. Claim 1 further recites "wherein: the TV channel video conforms to a TV broadcast format standard as received at the combiner circuit; the IP format material, as received at the combiner circuit, conforms to an IP format standard that is different from the TV broadcast format standard and is received at the combiner circuit via a path different from that for the TV channel video at least in part." As discussed above with respect to infringement of the '945

patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 50 – 53.

80. Claim 1 also states "the combiner circuit comprises a memory circuit configured to store, at the user's premises, plural overlays each identifying a respective source of IP material." As discussed above with respect to infringement of the '945 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 54 –55.

81. Claim 1 further recites "a display screen at the user's premises coupled with the combiner circuit to receive and display the combined video as a screen image."

82. The LG Smart TVs and LG WebOS Smart TVs satisfy this limitation at least because they have TV screens that are configured to display video in response to display drive signals.

83. Claim 1 also recites "said combiner circuit being further configured to: respond to an overlay activation criterion to cause the display screen to display the overlays as at least a part of the screen image, and respond to an overlay activation signal selected by the user at the user's premises and identifying one of the displayed overlays to cause the screen to display IP format material from the IP source associated with the identified overlay." As discussed above with respect to infringement of the '945 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 56–61.

84. Claim 1 further recites "wherein depending on the user's selection at the user's premises the screen image is at respective times the TV channel video with or without overlays thereon and the IP material that the user has selected through a the displayed overlays." As discussed

above with respect to infringement of the ’945 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 56–67.

85. Consequently, LG has directly infringed, either literally or under the doctrine of equivalents, one or more claims of the ’339 patent under 35 U.S.C. § 271(a) by importing, selling, and/or offering to sell smart televisions that support the above described Smart TV Technology in the United States. LG has also directly infringed by using, testing, operating and/or demonstrating televisions incorporating the above described Smart TV Technology at tradeshows or during the testing and repair procedures at service facilities in the United States.

86. LG has indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the ’339 patent under 35 U.S.C. § 271(b) by inducing users and customers of LG televisions to use the above described infringing Smart TV Technology. For example, LG advertises and identifies to users the Smart TV Technology. *See*, *e.g.*, Ex. I. By way of further example, LG provides instructional and tutorial materials for its Smart TV Technology instructing users on how to configure and connect the televisions to the Internet and to on-line video providers in a manner that results in the use of the claimed inventions. *See, e.g.*, Ex. G. These materials also include instructional videos posted on LG’s web site. *See*, *e.g.*, http://www.lg.com/us/support/video-tutorials/CT10000018-20150238686376-initial-setup. In view of the foregoing, LG has possessed specific intent to encourage others, and has in fact encouraged others, to infringe one or more claims of the ’339 patent. The customers and end users have used and practiced the claimed inventions. LG had knowledge of the ’339 patent at least as early as the filing of the complaint.

87. LG has also indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the ’339 patent under 35 U.S.C. § 271(b) by inducing third-parties to import, sell, or offer to sell LG televisions with the above described Smart TV Technology in the United States. LG has manufactured LG televisions overseas with knowledge and intent that such televisions will be imported, sold, or offered for sale in the United States. For example, LG designed and manufactured the televisions to be compliant with Federal Communication Commission (FCC) requirements, obtained Underwriters Laboratories (UL) certification for the televisions, made the televisions compatible with ATSC broadcast standards used in the United States, provided written instructions and on-screen displays in English, maintained a U.S. web site for marketing of the televisions, and made the televisions compatible with U.S. power requirements. LG also encourages third-parties to import and/or sell the accused televisions in the United States by contracting with and assisting them with the movement of LG’s televisions through distribution channels into and within the United States. Third-parties, including Costco, Walmart, and Best Buy to name a few, have, in fact, imported, sold, and/or offered to sell the accused LG televisions in the United States. LG had knowledge of the ’339 patent at least as early as the filing of the complaint.

88. LG has also indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the ’339 patent under 35 U.S.C. § 271(c) by importing, selling, and/or offering to sell in the United States televisions that possess the Smart TV Technology wherein there is no substantial non-infringing use for televisions with these features. Specifically, any use of the television as a Smart TV, utilizing both TV and Internet as designed, would necessarily infringe. Moreover, televisions that include the Smart TV Technology are not staple items of commerce. In addition, LG had knowledge that the televisions with the Smart TV Technology were especially made and adapted

to use the claimed inventions of the ’339 patent. Customers and end users of the accused LG televisions have used and practiced the claimed inventions. LG had knowledge of the ’339 patent at least as early as the filing of the complaint.

89. TVnGO has been harmed as a result of LG’s infringement and is entitled to recover damages to compensate for the infringement.

FOURTH COUNT FOR PATENT INFRINGEMENT (’969 PATENT)

90. TVnGO realleges, and incorporates in full herein, each preceding paragraph.

91. The ’969 patent is directed to and claims, inter alia, methods and devices for generating an overlay using video signals as a first data and digital data as a second layer. *See generally,* Ex. D. The LG Smart TVs and LG WebOS Smart TVs, and the use thereof, infringe one or more claims of the ’969 patent.

92. For example, claim 13 recites “[a] TV-Internet Integration circuit for generating at a user’s premises an overlay using video signals constituting a first data and overlay-enabling digital data constituting a second data, the TV-Internet Integration Box [sic Circuit] comprising.” As discussed above with respect to infringement of the ’220 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 15–17, 20–21.

93. Claim 13 also recites “a combiner circuit at a user’s premises coupled to a separate TV tuner box or TV tuner.” As discussed above with respect to infringement of the ’220 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 22–24.

94. Claim 13 also recites “wherein the combiner circuit is also connected through distinct networks to each of a video signal input providing video signals through the TV tuner box or TV

tuner, and an Internet data input providing overlay-enabling digital data over the Internet." As discussed above with respect to infringement of the '220 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 25–27.

95. Claim 13 also recites "wherein said video signals and said overlay-enabling digital data are received at the combiner circuit at the user's premises by different resources as mutually distinct and independent inputs." As discussed above with respect to infringement of the '220 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 28–30.

96. Claim 13 also recites "wherein said overlay-enabling digital data includes at least: a Web link indicating a website where content that is associated with said overlay-enabling digital data is stored; an image indicative of the content associated with said overlay-enabling digital data; and an overlay activation criterion." As discussed above with respect to infringement of the '220 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 31–33.

97. Claim 13 also recites "wherein the combiner circuit is responsive to an overlay activation criterion being met for generating a corresponding overlay, including: [i] generating at the user's premises a first display screen including at least a first portion corresponding to said video signals and a second portion overlaid over said first portion and corresponding at least to said image, and [ii] associating the Web link with said second portion of the first display screen thereby allowing a user to cause the combiner circuit to retrieve said content, and generate a second video display screen including at least a portion which corresponds to said content; and [iii] a video output interface, coupled to or integrated within the combiner circuit and configured to be coupled to a video input of said TV set and to display said first display screen or said

second video display screen." As discussed above with respect to infringement of the '220 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 34–36.

98. Consequently, LG has directly infringed, either literally or under the doctrine of equivalents, one or more claims of the '969 patent under 35 U.S.C. § 271(a) by importing, selling, and/or offering to sell smart televisions that support the above described Smart TV Technology in the United States. LG has also directly infringed by using, testing, operating and/or demonstrating televisions incorporating the above described Smart TV Technology at tradeshows or during the testing and repair procedures at service facilities in the United States.

99. LG has indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the '969 patent under 35 U.S.C. § 271(b) by inducing users and customers of LG televisions to use the above described infringing Smart TV Technology. For example, LG advertises and identifies to users the Smart TV Technology. *See*, *e.g.*, Ex. I. By way of further example, LG provides instructional and tutorial materials for its Smart TV Technology instructing users on how to configure and connect the televisions to the Internet and to on-line video providers in a manner that results in the use of the claimed inventions. *See*, *e.g.*, Ex. G. These materials also include instructional videos posted on LG's web site. *See*, *e.g.*, http://www.lg.com/us/support/video-tutorials/CT10000018-20150238686376-initial-setup. In view of the foregoing, LG has possessed specific intent to encourage others, and has in fact encouraged others, to infringe one or more claims of the '969 patent. The customers and end users have used and practiced the claimed inventions. LG had knowledge of the '969 patent at least as early as the filing of the complaint.

100. LG has also indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the '969 patent under 35 U.S.C. § 271(b) by inducing third-parties to import, sell, or offer to sell LG televisions with the above described Smart TV Technology in the United States. LG has manufactured LG televisions overseas with knowledge and intent that such televisions will be imported, sold, or offered for sale in the United States. For example, LG designed and manufactured the televisions to be compliant with Federal Communication Commission (FCC) requirements, obtained Underwriters Laboratories (UL) certification for the televisions, made the televisions compatible with ATSC broadcast standards used in the United States, provided written instructions and on-screen displays in English, maintained a U.S. web site for marketing of the televisions, and made the televisions compatible with U.S. power requirements. LG also encourages third-parties to import and/or sell the accused televisions in the United States by contracting with and assisting them with the movement of LG's televisions through distribution channels into and within the United States. Third-parties, including Costco, Walmart, and Best Buy to name a few, have, in fact, imported, sold, and/or offered to sell the accused LG televisions in the United States. LG had knowledge of the '969 patent at least as early as the filing of the complaint.

101. LG has also indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the '969 patent under 35 U.S.C. § 271(c) by importing, selling, and/or offering to sell in the United States televisions that possess the Smart TV Technology wherein there is no substantial non-infringing use for televisions with these features. Specifically, any use of the television as a Smart TV, utilizing both TV and Internet as designed, would necessarily infringe. Moreover, televisions that include the Smart TV Technology are not staple items of commerce. In addition, LG had knowledge that the televisions with the Smart TV Technology were especially

made and adapted to use the claimed inventions of the ’969 patent. Customers and end users of the accused LG televisions have used and practiced the claimed inventions. LG had knowledge of the ’969 patent at least as early as the filing of the complaint.

102. TVnGO has been harmed as a result of LG’s infringement and is entitled to recover damages to compensate for the infringement.

FIFTH COUNT FOR PATENT INFRINGEMENT (’621 PATENT)

103. TVnGO realleges, and incorporates in full herein, each preceding paragraph.

104. The ’621 patent is directed to and claims, inter alia, methods for integrating television channel video with Internet content by overlaying the signal. *See generally*, Ex. E. The LG Smart TVs and LG WebOS Smart TVs, and the use thereof, infringe one or more claims of the ’621 patent.

105. For example, claim 1 recites “[a] TV-Internet Integration process to combine, at a user’s premises, TV channel video with Internet Protocol (IP) material, comprising:.” As discussed above with respect to infringement of the ’220 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 15–17, 20–21.

106. Claim 1 also recites “receiving the TV channel video at a first input at the user’s premises, receiving the IP material at a second input at the user’s premises, and outputting display drive signals to a TV screen at the user’s premises.” As discussed above with respect to infringement of the ’945 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 48–49.

107. Claim 1 also recites "wherein (i) as received at the user's premises, the TV channel video conforms to a TV broadcast format standard; (ii) as received at the user's premises, the IP format material conforms to an IP format standard that is different from the TV broadcast format standard and (iii) the IP material is received via a path different from that for the TV channel video at least in part." As discussed above with respect to infringement of the '945 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 50–53.

108. Claim 1 also recites "storing, in a memory, one or more overlays each identifying a respective source of IP format material." As discussed above with respect to infringement of the '945 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 54–55.

109. Claim 1 also recites "selectively generating display drive signals that cause the TV screen to display the TV channel video received at the first input." As discussed above with respect to infringement of the '945 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 56–58.

110. Claim 1 also recites "responding to an overlay activation signal by reading out the one or more overlays from the memory and generating display drive signals that cause the TV screen to display the one or more overlays." As discussed above with respect to infringement of the '945 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 59–61.

111. Claim 1 also recites "responding to a user's selection of one of the displayed overlays by generating display drive signals that cause the TV screen to display the IP material

associated with the selected overlay and received at the second input." As discussed above with respect to infringement of the '945 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 62–64.

112. Claim 1 also recites "wherein, depending on the user's selection at the user's premises, the TV screen displays, at respective times, the TV channel video received at the first input, the one or more overlays, and the IP material associated with the selected overlay and received at the second input." As discussed above with respect to infringement of the '945 patent, the LG Smart TVs and LG WebOS Smart TVs satisfy this limitation. *See supra* ¶¶ 65–67.

113. Consequently, LG has directly infringed, either literally or under the doctrine of equivalents, one or more claims of the '621 patent under 35 U.S.C. § 271(a) by importing, selling, and/or offering to sell smart televisions that support the above described Smart TV Technology in the United States. LG has also directly infringed by using, testing, operating and/or demonstrating televisions incorporating the above described Smart TV Technology at tradeshows or during the testing and repair procedures at service facilities in the United States.

114. LG has indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the '621 patent under 35 U.S.C. § 271(b) by inducing users and customers of LG televisions to use the above described infringing Smart TV Technology. For example, LG advertises and identifies to users the Smart TV Technology. *See, e.g.*, Ex. I. By way of further example, LG provides instructional and tutorial materials for its Smart TV Technology instructing users on how to configure and connect the televisions to the Internet and to on-line video providers in a manner that results in the use of the claimed inventions. *See, e.g.*, Ex. G. These materials also include instructional videos posted on LG's web site. *See, e.g.*,

http://www.lg.com/us/support/video-tutorials/CT10000018-20150238686376-initial-setup. In view of the foregoing, LG has possessed specific intent to encourage others, and has in fact encouraged others, to infringe one or more claims of the '621 patent. The customers and end users have used and practiced the claimed inventions. LG had knowledge of the '621 patent at least as early as the filing of the complaint.

115. LG has also indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the '621 patent under 35 U.S.C. § 271(b) by inducing third-parties to import, sell, or offer to sell LG televisions with the above described Smart TV Technology in the United States. LG has manufactured LG televisions overseas with knowledge and intent that such televisions will be imported, sold, or offered for sale in the United States. For example, LG designed and manufactured the televisions to be compliant with Federal Communication Commission (FCC) requirements, obtained Underwriters Laboratories (UL) certification for the televisions, made the televisions compatible with ATSC broadcast standards used in the United States, provided written instructions and on-screen displays in English, maintained a U.S. web site for marketing of the televisions, and made the televisions compatible with U.S. power requirements. LG also encourages third-parties to import and/or sell the accused televisions in the United States by contracting with and assisting them with the movement of LG's televisions through distribution channels into and within the United States. Third-parties, including Costco, Walmart, and Best Buy to name a few, have, in fact, imported, sold, and/or offered to sell the accused LG televisions in the United States. LG had knowledge of the '621 patent at least as early as the filing of the complaint.

116. LG has also indirectly infringed, either literally or under the doctrine of equivalents, one or more claims of the '621 patent under 35 U.S.C. § 271(c) by importing, selling, and/or offering

to sell in the United States televisions that possess the Smart TV Technology wherein there is no substantial non-infringing use for televisions with these features. Specifically, any use of the television as a Smart TV, utilizing both TV and Internet as designed, would necessarily infringe. Moreover, televisions that include the Smart TV Technology are not staple items of commerce. In addition, LG had knowledge that the televisions with the Smart TV Technology were especially made and adapted to use the claimed inventions of the '621 patent. Customers and end users of the accused LG televisions have used and practiced the claimed invention. LG had knowledge of the '621 patent at least as early as the filing of the complaint.

117. TVnGO has been harmed as a result of LG's infringement and is entitled to recover damages to compensate for the infringement.

DEMAND FOR JURY TRIAL

118. TVnGO hereby demands a trial by jury on all claims.

PRAYER FOR RELIEF

119. WHEREFORE, TVnGO respectfully requests judgment as follows:

a. That this Court issue a judgment that each of U.S. Patent Nos. 8,132,220; 9,124,945; 9,392,339; 9,407,969; and 9,794,621 are valid and enforceable;

b. That this Court adjudge that LG has infringed each of U.S. Patent Nos. 8,132,220; 9,124,945; 9,392,339; 9,407,969; and 9,794,621;

c. That this Court award TVnGO all appropriate damages under 35 U.S.C. § 284 to compensate TVnGO for LG's infringement, including for interest, costs, and disbursements;

d. That this Court finds this case to be exceptional within the meaning of 35 U.S.C. § 285 and awards TVnGO its reasonable attorneys‟ fees, costs, and expenses in prosecuting this action; and

e. That this Court awards TVnGO any further relief at law or in equity as the Court deems just and proper.

Respectfully submitted,

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